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Sequence Listing

<110> Ashkenazi, Avi
Chuntharapai, Anan
Dodge, Kelly
Kim, Kyung Jin

<120> DR4 Antibodies and Uses Thereof

<130> P1245R1P2B

<140> US 09/584,166
<141> 2000-05-25

<150> US 09/322,875
<151> 1999-05-28

<150> US 09/237,299
<151> 1999-01-25

<150> US 60/072,481
<151> 1998-01-26

<160> 12

<210> 1
<211> 468
<212> PRT
<213> Homo sapiens

<400> 1

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  1               5                  10                  15

Val Thr Pro Asn Pro Gly Ser Ala Ala Ser Gly Thr Glu Ala Ala
             20                  25                  30

Ala Ala Thr Pro Ser Lys Val Trp Gly Ser Ser Ala Gly Arg Ile
             35                  40                  45

Glu Pro Arg Gly Gly Gly Arg Gly Ala Leu Pro Thr Ser Met Gly
             50                  55                  60

Gln His Gly Pro Ser Ala Arg Ala Arg Ala Gly Arg Ala Pro Gly
             65                  70                  75

Pro Arg Pro Ala Arg Glu Ala Ser Pro Arg Leu Arg Val His Lys
             80                  85                  90

Thr Phe Lys Phe Val Val Val Gly Val Leu Leu Gln Val Val Pro
             95                 100                 105

Ser Ser Ala Ala Thr Ile Lys Leu His Asp Gln Ser Ile Gly Thr
            110                 115                 120

Gln Gln Trp Glu His Ser Pro Leu Gly Glu Leu Cys Pro Pro Gly
            125                 130                 135
```

Ser His Arg Ser Glu Arg Pro Gly Ala Cys Asn Arg Cys Thr Glu
140 145 150

Gly Val Gly Tyr Thr Asn Ala Ser Asn Asn Leu Phe Ala Cys Leu
155 160 165

Pro Cys Thr Ala Cys Lys Ser Asp Glu Glu Glu Arg Ser Pro Cys
170 175 180

Thr Thr Thr Arg Asn Thr Ala Cys Gln Cys Lys Pro Gly Thr Phe
185 190 195

Arg Asn Asp Asn Ser Ala Glu Met Cys Arg Lys Cys Ser Thr Gly
200 205 210

Cys Pro Arg Gly Met Val Lys Val Lys Asp Cys Thr Pro Trp Ser
215 220 225

Asp Ile Glu Cys Val His Lys Glu Ser Gly Asn Gly His Asn Ile
230 235 240

Trp Val Ile Leu Val Val Thr Leu Val Val Pro Leu Leu Leu Val
245 250 255

Ala Val Leu Ile Val Cys Cys Cys Ile Gly Ser Gly Cys Gly Gly
260 265 270

Asp Pro Lys Cys Met Asp Arg Val Cys Phe Trp Arg Leu Gly Leu
275 280 285

Leu Arg Gly Pro Gly Ala Glu Asp Asn Ala His Asn Glu Ile Leu
290 295 300

Ser Asn Ala Asp Ser Leu Ser Thr Phe Val Ser Glu Gln Gln Met
305 310 315

Glu Ser Gln Glu Pro Ala Asp Leu Thr Gly Val Thr Val Gln Ser
320 325 330

Pro Gly Glu Ala Gln Cys Leu Leu Gly Pro Ala Glu Ala Glu Gly
335 340 345

Ser Gln Arg Arg Arg Leu Leu Val Pro Ala Asn Gly Ala Asp Pro
350 355 360

Thr Glu Thr Leu Met Leu Phe Phe Asp Lys Phe Ala Asn Ile Val
365 370 375

Pro Phe Asp Ser Trp Asp Gln Leu Met Arg Gln Leu Asp Leu Thr
380 385 390

Lys Asn Glu Ile Asp Val Val Arg Ala Gly Thr Ala Gly Pro Gly
395 400 405

Asp Ala Leu Tyr Ala Met Leu Met Lys Trp Val Asn Lys Thr Gly
410 415 420

Arg Asn Ala Ser Ile His Thr Leu Leu Asp Ala Leu Glu Arg Met
425 430 435

Glu Glu Arg His Ala Lys Glu Lys Ile Gln Asp Leu Leu Val Asp
440 445 450

Ser Gly Lys Phe Ile Tyr Leu Glu Asp Gly Thr Gly Ser Ala Val
455 460 465

Ser Leu Glu

<210> 2
<211> 1407
<212> DNA
<213> Homo sapiens

<400> 2
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tccgaatccc gggagcgcag cgagtgggac agaggcagcc gcggccacac 100

ccagcaaagt gtggggctct tccgcgggga ggattgaacc acgaggcggg 150

ggccgaggag cgctccctac ctccatggga cagcacggac ccagtgcccg 200

ggcccgggca gggcgcgccc caggacccag gccggcgcgg gaagccagcc 250

ctcggctccg ggtccacaag accttcaagt ttgtcgtcgt cggggtcctg 300

ctgcaggtcg tacctagctc agctgcaacc atgatcaatc aattggcaca 350

aattggcaca cagcaatggg aacatagccc tttgggagag ttgtgtccac 400

caggatctca tagatcagaa cgtcctggag cctgtaaccg gtgcacagag 450

ggtgtgggtt acaccaatgc ttccaacaat ttgtttgctt gcctcccatg 500

tacagcttgt aaatcagatg aagaagagag aagtccctgc accacgacca 550

ggaacacagc atgtcagtgc aaaccaggaa ctttccggaa tgacaattct 600

gctgagatgt gccggaagtg cagcacaggg tgccccagag ggatggtcaa 650

ggtcaaggat tgtacgccct ggagtgacat cgagtgtgtc cacaaagaat 700

caggcaatgg acataatata tgggtgattt tggttgtgac tttggttgtt 750

ccgttgctgt tggtggctgt gctgattgtc tgttgttgca tcggctcagg 800

ttgtggaggg gaccccaagt gcatggacag ggtgtgtttc tggcgcttgg 850

gtctcctacg agggcctggg gctgaggaca atgctcacaa cgagattctg 900

agcaacgcag actcgctgtc cactttcgtc tctgagcagc aaatggaaag 950

ccaggagccg gcagatttga caggtgtcac tgtacagtcc ccaggggagg 1000

cacagtgtct gctgggaccg gcagaagctg aagggtctca gaggaggagg 1050

ctgctggttc cagcaaatgg tgctgacccc actgagactc tgatgctgtt 1100

ctttgacaag tttgcaaaca tcgtgccctt tgactcctgg gaccagctca 1150

tgaggcagct ggacctcacg aaaaatgaga tcgatgtggt cagagctggt 1200

acagcaggcc caggggatgc cttgtatgca atgctgatga aatgggtcaa 1250

caaaactgga cggaacgcct cgatccacac cctgctggat gccttggaga 1300

ggatggaaga gagacatgca aaagagaaga ttcaggacct cttggtggac 1350

tctggaaagt tcatctactt agaagatggc acaggctctg ccgtgtcctt 1400

ggagtga 1407

<210> 3
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Sequence is synthesized.

<220>
<221> Misc_feature
<222> 16,17,19,21,22,27,28,31,34,35
<223> w=a or t; k=g or t; b=g or t or c; y=c or t; r=a or g; s=g or c

<400> 3
tgcagccacg gwccgwktba kytccarytt kgtssc 36

<210> 4
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> Sequence is synthesized.

<220>
<221> Misc_feature
<222> 27, 28, 31, 34, 39
<223> m=a or c; r=a or g; n=a or g or t or c; s=g or c

<400> 4
gaccgatggg cccgtcgttt tggctgmrga racngtgas 39

<210> 5
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Sequence is synthesized.

<400> 5
gctacaaatg catacgctga tatccagatg acacag 36

<210> 6
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Sequence is synthesized.

<400> 6
gctacaaacg cgtacgctca ggtgcagctg aaggag 36

<210> 7
<211> 702
<212> DNA
<213> Artificial Sequence

<220>
<223> Sequence is synthesized.

<400> 7
atgggatggt catgtatcat ccttttttcta gtagcaactg caactggagt 50

acattcagat atccagatga cacagactac atcctccctg tctgcctctc 100

tgggagacag agtcaccatc agttgcaggg caagtcagga cattagcaat 150

tatttaaact ggtatcagcg gaaaccagat ggaactgtta aactcctgat 200

ctactacaca tcacgattac actcaggagt cccatcacgg ttcagtggca 250

gtgggtctgg aacagattat tctctcacca ttagcaacct ggaacaagaa 300

gatattgcca cttacttttg ccaacagggt aatacgcttc cattcacgtt 350

cggctcggcc accaagctgg aactaactcg gaccgtggct gcaccatctg 400

tcttcatctt cccgccatct gatgagcagt tgaaatctgg aactgcctct 450

gttgtgtgcc tgctgaataa cttctatccc agagaggcca aagtacagtg 500

gaaggtggat aacgccctcc aatcgggtaa ctcccaggag agtgtcacag 550

agcaggacag caaggacagc acctacagcc tcagcagcac cctgacgctg 600

agcaaagcag actacgagaa acacaaagtc tacgcctgcg aagtcaccca 650

tcagggcctg agctcgcccg tcacaaagag cttcaacagg ggagagtgtt 700

aa 702

<210> 8
<211> 702
<212> DNA
<213> Artificial Sequence

<220>
<223> Sequence is synthesized.

<400> 8
ttaacactct cccctgttga agctctttgt gacgggcgag ctcaggccct 50

gatgggtgac ttcgcaggcg tagactttgt gtttctcgta gtctgctttg 100

ctcagcgtca gggtgctgct gaggctgtag gtgctgtcct tgctgtcctg 150

ctctgtgaca ctctcctggg agttacccga ttggagggcg ttatccacct 200

tccactgtac tttggcctct ctgggataga agttattcag caggcacaca 250

acagaggcag ttccagattt caactgctca tcagatggcg ggaagatgaa 300

gacagatggt gcagccacgg tccgagttag ttccagcttg gtggccgagc 350

cgaacgtgaa tggaagcgta ttaccctgtt ggcaaaagta agtggcaata 400

tcttcttgtt ccaggttgct aatggtgaga gaataatctg ttccagaccc 450

actgccactg aaccgtgatg ggactcctga gtgtaatcgt gatgtgtagt 500

agatcaggag tttaacagtt ccatctggtt tccgctgata ccagtttaaa 550

taattgctaa tgtcctgact tgccctgcaa ctgatggtga ctctgtctcc 600

cagagaggca gacagggagg atgtagtctg tgtcatctgg atatctgaat 650

gtactccagt tgcagttgct actagaaaaa ggatgataca tgaccatccc 700

at 702

<210> 9
<211> 233
<212> PRT
<213> Artificial Sequence

<220>
<223> Sequence is synthesized.

<400> 9
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1 5 10 15

Gly Val His Ser Asp Ile Gln Met Thr Gln Thr Thr Ser Ser Leu
20 25 30

Ser Ala Ser Leu Gly Asp Arg Val Thr Ile Ser Cys Arg Ala Ser
35 40 45

Gln Asp Ile Ser Asn Tyr Leu Asn Trp Tyr Gln Arg Lys Pro Asp
50 55 60

Gly Thr Val Lys Leu Leu Ile Tyr Tyr Thr Ser Arg Leu His Ser
65 70 75

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Tyr
80 85 90

Ser Leu Thr Ile Ser Asn Leu Glu Gln Glu Asp Ile Ala Thr Tyr
95 100 105

Phe Cys Gln Gln Gly Asn Thr Leu Pro Phe Thr Phe Gly Ser Ala
110 115 120

Thr Lys Leu Glu Leu Thr Arg Thr Val Ala Ala Pro Ser Val Phe
125 130 135

Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser
140 145 150

Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val
155 160 165

Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu
170 175 180

Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser
185 190 195

Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val
200 205 210

Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr
215 220 225

Lys Ser Phe Asn Arg Gly Glu Cys
230

<210> 10
<211> 1431
<212> DNA
<213> Artificial Sequence

<220>
<223> Sequence is synthesized.

<220>
<221> Misc_feature
<222> 58,60,63
<223> s=g or c; r=a or g; k=g or t

<400> 10
atgggatggt catgtatcat ccttttttcta gtagcaactg caactggagt 50

acattcasar gtkcagctga aggagtcagg acctggcctg gtggcgccct 100

cacagagcct gtccatcact tgcactgtct ctgggttttc attaaccagc 150

tatggtgtac actgggttcg ccagcctcca ggaaagggtc tggagtggct 200

gggagtaata tgggctgttg gaagcacaaa ttataattcg gctctcatgt 250

ccagactgag catcagcaaa gacaactcca agagccaagt tttcttaaaa 300

atgaacagtc tgcaaactga tgacacagcc atgtactact gtgccagaga 350

gggggaattc gattactacg gtagtagtct cctatcttac cattctatga 400

acttctgggg tcaaggaacc tcagtcaccg tctcctcagc caaaacgacg 450

ggcccatcgg tcttcccccc ggcaccctcc tccaagagca cctctggggg 500

cacagcggcc ctgggctgcc tggtcaagga ctacttcccc gaaccggtga 550

cggtgtcgtg gaactcaggc gccctgacca gcggcgtgca caccttcccg 600

gctgtcctac agtcctcagg actctactcc ctcagcagcg tggtgactgt 650

gccctctagc agcttgggca cccagaccta catctgcaac gtgaatcaca 700

agcccagcaa caccaaggtg gacaagaaag ttgagcccaa atcttgtgac 750

aaaactcaca catgcccacc gtgcccagca cctgaactcc tgggggggacc 800

gtcagtcttc ctcttccccc caaaacccaa ggacaccctc atgatctccc 850

ggaccctga ggtcacatgc gtggtggtgg acgtgagcca cgaagaccct 900

gaggtcaagt tcaactggta cgtggacggc gtggaggtgc ataatgccaa 950

gacaaagccg cgggaggagc agtacaacag cacgtaccgg gtggtcagcg 1000

tcctcaccgt cctgcaccag gactggctga atggcaagga gtacaagtgc 1050

aaggtctcca acaaagccct cccagccccc atcgagaaaa ccatctccaa 1100

agccaaaggg cagccccgag aaccacaggt gtacaccctg cccccatccc 1150

gggaagagat gaccaagaac caggtcagcc tgacctgcct ggtcaaaggc 1200

ttctatccca gcgacatcgc cgtggagtgg gagagcaatg ggcagccgga 1250

gaacaactac aagaccacgc ctcccgtgct ggactccgac ggctccttct 1300

tcctctacag caagctcacc gtggacaaga gcaggtggca gcaggggaac 1350

gtcttctcat gctccgtgat gcatgaggct ctgcacaacc actacacgca 1400

gaagagcctc tccctgtctc cgggtaaatg a 1431

<210> 11
<211> 1431
<212> DNA
<213> Artificial Sequence

<220>
<223> Sequence is synthesized.

<220>
<221> Misc_feature
<222> 1369,1372,1374
<223> s=g or c; y=c or t; m=a or c

<400> 11
tcatttaccc ggagacaggg agaggctctt ctgcgtgtag tggttgtgca 50

gagcctcatg catcacggag catgagaaga cgttcccctg ctgccacctg 100

ctcttgtcca cggtgagctt gctgtagagg aagaaggagc cgtcggagtc 150

cagcacggga ggcgtggtct tgtagttgtt ctccggctgc ccattgctct 200

cccactccac ggcgatgtcg ctgggataga agcctttgac caggcaggtc 250

aggctgacct ggttcttggt catctcttcc cgggatgggg gcagggtgta 300

cacctgtggt tctcggggct gcccttggc tttggagatg gttttctcga 350

tgggggctgg gagggctttg ttggagacct tgcacttgta ctccttgcca 400

ttcagccagt cctggtgcag gacggtgagg acgctgacca cccggtacgt 450

gctgttgtac tgctcctccc gcggctttgt cttggcatta tgcacctcca 500

cgccgtccac gtaccagttg aacttgacct cagggtcttc gtggctcacg 550

tccaccacca cgcatgtgac ctcaggggtc cgggagatca tgagggtgtc 600

cttgggtttt ggggggaaga ggaagactga cggtcccccc aggagttcag 650

gtgctgggca cggtgggcat gtgtgagttt tgtcacaaga tttgggctca 700

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gtaggtctgg gtgcccaagc tgctagaggg cacagtcacc acgctgctga 800

gggagtagag tcctgaggac tgtaggacag ccgggaaggt gtgcacgccg 850

ctggtcaggg cgcctgagtt ccacgacacc gtcaccggtt cggggaagta 900

gtccttgacc aggcagccca gggccgctgt gcccccagag gtgctcttgg 950

aggagggtgc caggggggaag accgatgggc ccgtcgtttt ggctgaggag 1000

acggtgactg aggttccttg accccagaag ttcatagaat ggtaagatag 1050

gagactacta ccgtagtaat cgaattcccc ctctctggca cagtagtaca 1100

tggctgtgtc atcagtttgc agactgttca tttttaagaa aacttggctc 1150

ttggagttgt ctttgctgat gctcagtctg gacatgagag ccgaattata 1200

atttgtgctt ccaacagccc atattactcc cagccactcc agacccttc 1250

ctggaggctg gcgaacccag tgtacaccat agctggttaa tgaaaaccca 1300

gagacagtgc aagtgatgga caggctctgt gagggcgcca ccaggccagg 1350

tcctgactcc ttcagctgma cytstgaatg tactccagtt gcagttgcta 1400

ctagaaaaag gatgatacat gaccatccca t 1431

<210> 12
<211> 476
<212> PRT
<213> Artificial Sequence

<220>
<223> Sequence is synthesized.

<220>
<221> Misc_feature
<222> 20
<223> Xaa may be glutamine or glutamic acid

<400> 12

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Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr
  1               5                  10                  15

Gly Val His Ser Xaa Val Gln Leu Lys Glu Ser Gly Pro Gly Leu
             20                  25                  30

Val Ala Pro Ser Gln Ser Leu Ser Ile Thr Cys Thr Val Ser Gly
             35                  40                  45

Phe Ser Leu Thr Ser Tyr Gly Val His Trp Val Arg Gln Pro Pro
             50                  55                  60

Gly Lys Gly Leu Glu Trp Leu Gly Val Ile Trp Ala Val Gly Ser
             65                  70                  75

Thr Asn Tyr Asn Ser Ala Leu Met Ser Arg Leu Ser Ile Ser Lys
             80                  85                  90

Asp Asn Ser Lys Ser Gln Val Phe Leu Lys Met Asn Ser Leu Gln
             95                 100                 105

Thr Asp Asp Thr Ala Met Tyr Tyr Cys Ala Arg Glu Gly Glu Phe
            110                 115                 120

Asp Tyr Tyr Gly Ser Ser Leu Leu Ser Tyr His Ser Met Asn Phe
            125                 130                 135

Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser Ala Lys Thr Thr
            140                 145                 150

Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser
            155                 160                 165

Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro
            170                 175                 180

Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
            185                 190                 195

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
            200                 205                 210

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln
            215                 220                 225
```

Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val
230 235 240

Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys
245 250 255

Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe
260 265 270

Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr
275 280 285

Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro
290 295 300

Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn
305 310 315

Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg
320 325 330

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
335 340 345

Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro
350 355 360

Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
365 370 375

Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn
380 385 390

Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp
395 400 405

Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
410 415 420

Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu
425 430 435

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
440 445 450

Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr
455 460 465

Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
470 475